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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/656,331   | 09/08/2003  | Wen-Shi Huang        | 0941-0834P          | 9211             |
| 2292   | 7590        | 11/18/2005           | EXAMINER            |                  |
| BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      | TAMAI, KARL I       |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2834                |                  |

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/656,331

Applicant(s)

HUANG ET AL.

Examiner

Tamai I.E. Karl

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The amended title of the invention, "Heat Dissipating Device with a Combination Bearing Assembly Having Repulsive Magnetic Bearing Rings and a Sleeve Bearing " has been entered into the file wrapper. The requirement of a new title is withdrawn.

### ***Drawings***

2. The objection to the drawings under 37 CFR 1.83(a) is withdrawn.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 19-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The specification does not provide a full, clear, concise, and exact written description of radially aligned magnets providing ONLY radial force or axially aligned magnets providing ONLY axial magnetic force.
5. The rejection of Claims 12 and 13 under 35 U.S.C. 112, first paragraph, is withdrawn.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 is vague and indefinite because it is unclear whether the recited first, second, and third magnetic rings refer to the first and/or second magnetic portions.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3, 8, 9, 11, 15-17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420). Ishizuka teaches a bearing having an attractive magnetic upper 3/lower 4 bearings symmetrically disposed at opposite ends of the shaft which provide axial and radial forces on the shaft and a ball bearing 5 connected to the shaft 1 and base 2. The upper bearings 4 (also the first magnetic portion) having inner and outer rings (figure 4) which are radially aligned and having the poles axially offset with the same polar disposition, and where the lower bearings(also the second magnetic portion) having first (3a), second (3b) and third rings (3aa)(figure 5). With regards to claims 19-22, the bearing of figure 5 includes both axially and radially aligned magnets providing first and second magnetic portions. Ishizuka teaches that any combination of the bearings is acceptable (page 13, last paragraph). Ishizuka teaches the bearing supporting a fan (inherently includes a fan mounted to the shaft). Ishizuka teaches the magnets coupled to the base and shaft. Ishizuka teaches every aspect of the invention except the magnet and bearing portions on the inner side of the hub. Tadane teaches the bearings on the inner side of the hub to provide a compact low friction motor. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan of Ishizuka with the bearings on the inner side of a hub to provide a compact motor with low frictional torque, as taught by Tadane.

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11. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420), in further view of Nakamura et al. (Nakamura)(JP 2000/078796). Ishizuka and Tadane teach every aspect of the invention except the upper and lower magnetic portions being symmetrical to the bearings. Nakamura teaches the magnetic bearings on opposite ends of the shaft and symmetrical to the bearings. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Tadane with the magnetic bearings symmetrical to the mechanical bearings to provide a motor of small size with a long life, as taught by Nakamura.

12. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242), Tadane et al. (Tadane)(JP 06-235420), and Nakamura et al. (Nakamura)(JP 2000/078796), in further view of Wyatt (US 4471331). Ishizuka, Tadane, and Nakamura teach every aspect of the invention except the first and second magnet rings are axially aligned with opposite polarities and the radially aligned magnets being of opposite polarity. Wyatt teaches the first 35 and second magnet 39 are axially aligned to provide a cumulative centering force with rotor magnet 34 to center the rotor. Wyatt teaches the polarities of the magnets can be attractive (fig. 2) or repulsive (fig. 3). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Nakamura with the first and second magnets axially aligned or with the magnets radially aligned with opposite polarities to effectively center the rotor as taught by Wyatt.

13. Claims 13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420), in further view of Mendelsohn (US 2582788). Ishizuka and Tadane teach every aspect of the invention except the first, second, and third magnets being axially aligned with opposite polarities. Mendelsohn teaches a shaft supported by axially aligned magnets with opposite polarities. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Tadane with the axially aligned magnets because Mendelsohn teaches to provide a powerful magnetic bearing.

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420), in further view of Weilbach et al. (Weilbach) (US 5019738). Ishizuka teaches every aspect of the invention except the first, second, and third magnets being axially aligned with identical polarities. Weilbach teaches a shaft supported by axially aligned magnets with identical polarities to provide good stiffness at high speeds. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Tadane with the axially aligned magnets being repulsive to provide a strong bearing even at high speeds as taught by Weilbach.

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15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242), Tadane et al. (Tadane)(JP 06-235420), and Nakamura et al. (Nakamura)(JP 2000/078796), in further view of Mehta et al. (Mehta)(US 5883449). Ishizuka, Tadane, and Nakamura teach every aspect of the invention except the bearing being a sleeve bearing. Nakamura disclose the bearings as any conventional bearings (black box). Mehta teaches that sleeve and ball bearings are used in fan motors. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Ishizuka, Tadane, and Nakamura with a sleeve bearing to help support the rotor as suggested by Nakamura and Mehta.

16. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420), in further view of Imlach (US 5894181). Ishizuka and Tadane teach every aspect of the invention except the first and third magnets being on the shaft with the second magnet on the base. Imlach teaches the first and third magnets being on the shaft with the second magnet on the base to provide a stable bearing system. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Ishizuka and Tadane with the first and third magnets being on the shaft with the second magnet on the base to provide a stable bearing system, as taught by Imlach.



***Response to Arguments***


17. Applicant's arguments filed April 25, 2005 have been fully considered but they moot in view of new grounds of rejection.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (571) 273 - 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai  
PRIMARY PATENT EXAMINER  
November 11, 2005

  
KARL TAMAI  
PRIMARY EXAMINER